1064404

Superfund Program

Proposed Remedial Action Plan
for the
Butler Mine Tunnel Site
Pittston, Luzerne County, Pennsylvania

July 1994

EPA Announces the Proposed Plan

The U.S. Environmental Protection Agency (EPA) is issuing this Proposed Remedial Action Plan (Proposed Plan) to present EPA's preferred remedial alternative for the Butler Mine Tunnel Site (Site) located in Pittston, Luzerne County, Pennsylvania. This Proposed Plan summarizes information obtained from the recently completed *Phase I Remedial Investigation, Phase II Remedial Investigation and Feasibility Study ("RI/FS report")* and the cleanup options being considered for the Site.

Through this Proposed Plan, EPA seeks the public's input on: 1) EPA's currently preferred remediation alternative and 2) all of the other alternatives for cleaning up the Site.

What's Inside...

Dates To Remember.

Public Meeting September 20, 1994
Public Comment Period: July 19, 1994 to September 22, 1994

EPA encourages the public to review the RI/FS Report and the other documents contained in the current Administrative Record file in order to gain a more comprehensive understanding of the Site. The locations of the Administrative Record file for the Site and the address to send comments on the proposed cleanup alternatives are given at the back of the Proposed Plan.

The Proposed Plan also contains a glossary of terms that may be unfamiliar to the general public. The terms in ***bold italic*** print in the text are defined in the glossary in the back of the Proposed Plan.

After this public comment period has ended, the public's comments will be incorporated in to the Responsiveness Summary contained in the *Record of Decision ("ROD")* for the Site. EPA, in consultation with the Pennsylvania Department of Environmental Resources (PADER), will then select a final remedy for the site only after the public comment period has ended and the comments received during the comment period have been reviewed and considered. The final remedy will be outlined in the ROD for the Site. Based on new information and/or comments received, the remedy selected in the ROD may be different from the currently preferred alternative described in this plan.

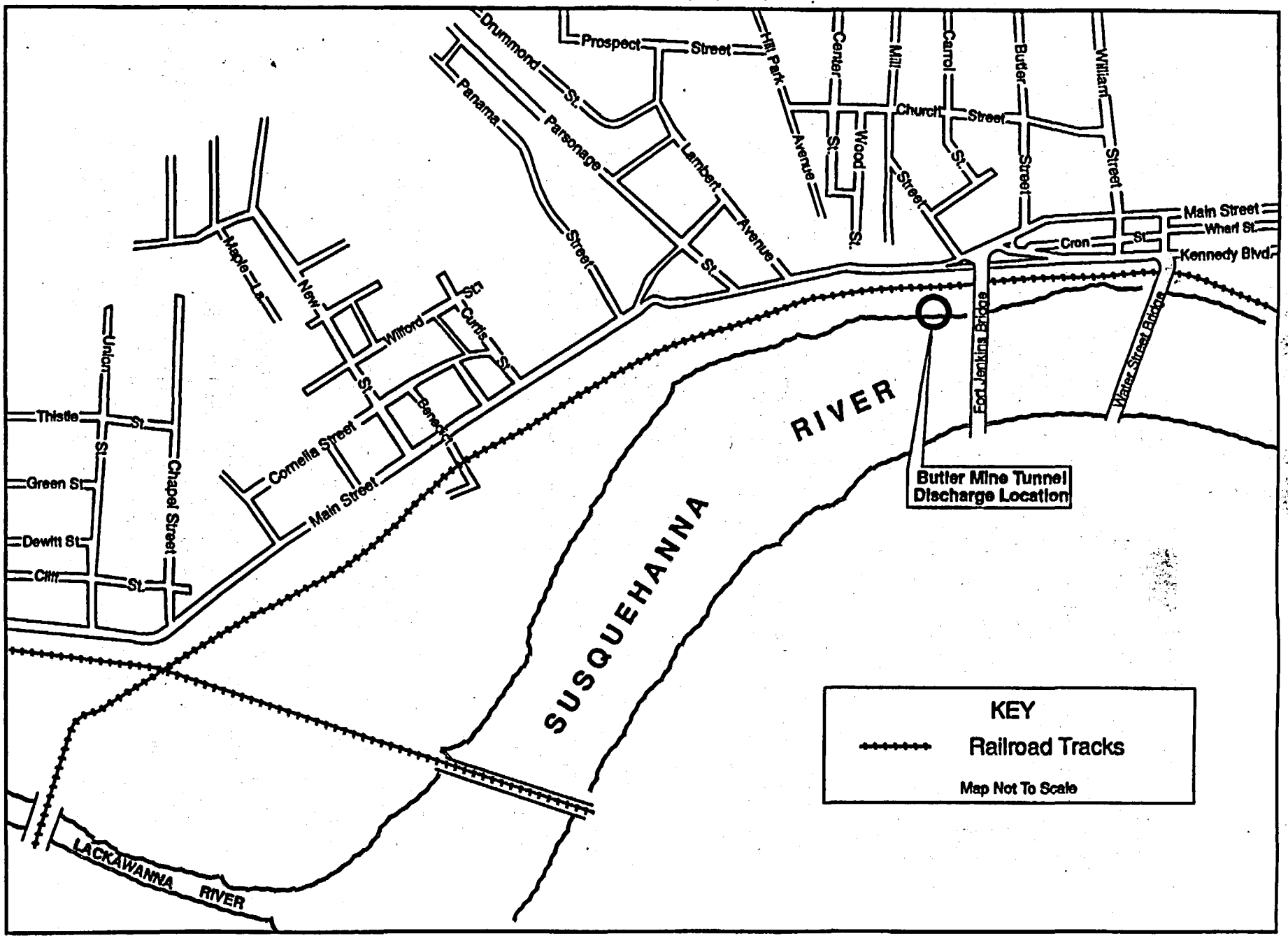
Issuance of the Proposed Plan fulfills EPA's public participation requirements under Sections 113(k)(2)(B), 117(a) and 121(f)(1)(G) of the *Superfund Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended.*

EPA and PADER now prefer Alternative 3; Institutional/Remedial Response. This alternative will establish an Administrative Center that will try to predict when a flushout may occur. A flushout can be defined as a sudden discharge of the oily hydrocarbon materials which have been disposed of into the mine pool. This discharge would flow with the water from the Butler Mine Tunnel directly into the Susquehanna River. The Center will keep records on rainfall amounts, monitor the water flow rate of the Tunnel discharge, and monitor the water level in the underground mines. The Center will also collect water samples for chemical analysis from existing boreholes. The Center will purchase cleanup materials to be stored near the Site to allow for the quickest possible response. Additional funds for the cleanup efforts are included in this alternative, should a flushout of the contaminated oily wastes occur.

I. Site Description

The Butler Mine Tunnel Site is located in Luzerne County, in northeastern Pennsylvania. The Tunnel discharge point is located on the east bank of the Susquehanna River approximately 350 feet north of the Fort Jenkins Bridge in the City of Pittston, PA.

BUTLER MINE TUNNEL SUPERFUND SITE
LOCATION MAP



The Butler Tunnel was constructed prior to the 1930's as a drainage Tunnel for underground coal mines via a series of interconnecting drainage ditches. Flow from the Tunnel discharges directly into the Susquehanna River. It was designed to drain only that portion of the Butler Mine workings which were situated above an elevation of 595 feet. However, mining occurred in numerous seams to elevations as low as 300 and 400 feet. This caused the formation of mine pools in the underground caverns from the accumulation of water and other substances introduced into the mine workings. The Tunnel drains an approximate 5-square mile area of underground mine caverns and waterways. The Tunnel still continues to drain the mine workings. It routinely discharges water containing contaminants of acid mine drainage composed of sulfate, iron and magnesium into the Susquehanna River. During mining operations, boreholes were drilled into the mines to serve as air vents for the mines. Many individuals and companies have also used the bore holes to dispose of various wastes. One such borehole was located at a gas station and auto repair shop in Pittston located over two miles from the Tunnel outlet. This borehole is known as the HWAS borehole for the Highway Auto Service Station where waste disposal occurred. The waste oil accumulated in the underground mine pools. It is believed than any sudden influx of substantial amounts of water (such as heavy rain) will cause the accumulated substances to be flushed out and discharged from the Tunnel.

The migration of contaminants for this Site begins with a rainfall event over the surface area of the entire mine pool including Pittston, Dupont and neighboring communities. The water enters the mine pool through open boreholes and from the natural seepage of water through the earth. As the water fills the underground mine workings the water elevation rises within the mines. Since the oil waste will remain floating on the surface of the water, the flushout occurs when the oil spills into the interconnecting underground drainage ditches, and then to Butler Tunnel's discharge location.

II. Site History

In late 1977, an oil recycling and reclamation company contracted with the owner of the Highway Auto Service Station for the disposal of oil wastes into the HWAS borehole on the service station property. It is estimated that several million gallons of wastes were disposed in this borehole. In July 1979, this disposal was discontinued because of a Pennsylvania State Police investigation.

At the end of July 1979, Pennsylvania authorities were notified of a strong odor emanating from the Butler Tunnel outfall on the banks of the Susquehanna. Upon arriving at the scene, authorities discovered a 35-mile long oil slick on the Susquehanna River originating at the Butler Tunnel outfall. Both EPA and PADER responded and performed an emergency removal under the authority of § 311 of the Clean Water Act ("CWA"). CWA authorizes cleanup of any oil discharge into navigable water. After further investigation by EPA, PADER and other authorities, the source of the substances was traced to the borehole at the Highway Auto Service Station. Testing of the wastes found in the borehole matched

the waste in the outfall. To provide conclusive proof, a dye was placed in the HWAS borehole. The same dye was subsequently observed in the outfall discharge.

After this spill was cleaned up, EPA installed an emergency monitoring device at the outfall of the Butler Tunnel. The Butler Emergency Response Program ("BERP") was designed to monitor the continuing discharge of water from the Tunnel and trigger an alarm if hazardous substances were discharged. PADER was charged with the operation and maintenance of the BERP system. After several years without a toxic discharge, the system was abandoned. Following the 1979 spill, the Butler Tunnel Site was evaluated and proposed for inclusion on the *National Priorities List ("NPL")*. However, EPA made the determination that no remedial activities were needed and the Site was removed from the proposed list.

In September 1985, another sudden discharge from the Butler Tunnel occurred following heavy rains and flooding associated with Hurricane Gloria, which swept through the area. Upon arriving at the scene, PADER found a 50-mile oil slick in the Susquehanna River emanating from the Butler outfall. EPA was notified and, with the assistance of PADER, began cleanup activities under § 311 of the Clean Water Act. This response became an emergency removal under § 104 of CERCLA when chemical analysis confirmed the presence of Bis(2-ethylhexyl) phthalate and dichlorobenzene, which are federally regulated hazardous substances. EPA removed and disposed of 161,000 pounds of oil/chemical-soaked debris and soil from the site. After further testing and investigation, EPA determined that the 1985 discharge was linked to the illegal dumping that caused the 1979 discharge. EPA spent over $735,000.00 on the 1985 removal action. On May 20, 1986, the Butler Tunnel site was once again proposed for inclusion on the NPL.

After both the 1979 and 1985 discharges, hydrogeologic studies were performed by EPA. During these studies, several boreholes were drilled into the mine workings. EPA found several mine pools containing hazardous substances. Both studies concluded that a "low probability" of a future discharge exists. Obviously, however, another discharge can occur anytime a large storm hits the area.

Following the 1985 flushout and the 1986 NPL proposal, EPA began to gather information on the individuals and companies who were responsible for the illegal dumping down the HWAS borehole. EPA identified over 20 parties and proceeded to refer the case to the U.S. Department of Justice for litigation. This action was to recover the money that EPA spent on the 1985 cleanup. EPA also pursued negotiations with the potentially responsible parties (PRPs) to implement the studies needed to assess the Site contamination and cleanup alternatives. In March 1987, nineteen of the PRPs signed an Administrative Consent Order. This is the legal document in which the parties agreed to pay the government some of the past costs, and to conduct the RI/FS required by CERCLA. The Butler Mine Tunnel Site Phase I Remedial Investigation Report, Phase II Remedial Investigation Report, and the Feasibility Study Report are the products of the Consent Order. The responsible parties hired Gannett Fleming, Inc. to conduct the investigations

and to prepare these reports. These studies are included in the Administrative Record for this Site.

III. Nature and Extent of Contamination

The contamination at the Butler Mine Tunnel Site began with the illegal dumping of industrial liquid wastes containing various hazardous substances. The list in Table 1 are based on chemical compounds detected during the 1979 and 1985 discharge incidents.

Table 1
Contaminants of Concern

Benzene	Dimethyl phthalate
Bis (2-Ethylhexyl) phthalate	Di-n-octyl phthalate
4-Bromopheny phenyl ether	Ethylbenzene
Carbon tetrachloride	Methylene chloride
Chloroform	Naphthalene
Cyanide	Phenol
Dichlorobenzene	Toluene
Diethyl phthalate	Trichloroethylene
	Xylene

The liquid waste containing these hazardous substances has moved through the mine workings into the Tunnel and has been discharged into the Susquehanna River. The Remedial Investigation also shows that some contaminants of concern still remain in the mine pool and present a potential risk if another flushout should occur. Therefore, EPA has evaluated two discharge scenarios to describe the nature and extent of contamination that could occur at the outfall of the Tunnel. Table 2 shows the two scenarios and the concentrations of the contaminants of concern that were reported during 1) a flushout of the oily liquid wastes and 2) the day to day concentrations as reported in the Remedial Investigation.

Table 2

Chemical	Flushout Maximum Report Tunnel Concentration (µg/l)	Day to Day Maximum Tunnel Concentration (µg/l)
Benzene	26.8	ND
Carbon Tetrachloride	13.6	ND
Chloroform	7.0	ND
Ethylbenzene	ND	9.0
Methylene Chloride	795.0	ND
Toluene	11.0	4.0
Trichloroethene	ND	ND
Total Xylenes	ND	59.0
bis (2ethylexl) phthalate	36.0	8.0
4-Bromophenyl phenyl ether	166.0	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	26.5	ND
1,4-Dichlorobenzene	ND	ND
Diethyl phthalate	5.0	ND
Dimethyl phthalate	5.0	ND
Di-n-octyl phthalate	5.0	ND
Naphthalene	ND	ND
Phenol	ND	ND
Cyanide	1.0	ND
Oil	NA	100.0

ND = Non Detect NA = Not Analyzed

IV. Summary of Site Risks

As part of the RI/FS, an analysis was conducted to estimate human health and environmental problems that could result at the Site. This analysis is referred to as a

Risk Assessment. The Risk Assessment studied both *carcinogenic* and non-carcinogenic risk at the Site for several exposure pathways which are the possible way that people or aquatic life could come into contact with the contaminated wastes.

For the Butler Mine Tunnel, the Risk Assessment also evaluated risk from day-to-day Tunnel discharge and discharges similar to the previous flushout that occurred in 1985. *The National Contingency Plan (NCP)* establishes acceptable levels of carcinogenic risk for *Superfund* sites between 1 in 10,000 and 1 in 1,000,000 additional cancer cases. Expressed as a *scientific notation*, this translates to an acceptable risk range between 10^{-4} and 10^{-6}. In addition to carcinogenic risk, chemical contaminants that are ingested (eaten), inhaled (breathed), or dermally absorbed (skin contact), may present a non-carcinogenic risk to humans. This kind of risk is expressed as a Hazard Index (HI). An HI exceeding one (1) is considered an unacceptable risk.

Table 3 shows the risk to human health from various exposure pathways for the contaminant concentrations detected in the day-to-day conditions and for a flushout condition. The calculation indicates that the risks from the day-to-day discharge and from a flushout discharge for the chemicals of concern are within an acceptable risk range. This is based on the fact that the day-to-day water has only a few of the chemicals of concern and those are at low concentrations. The main factor for the flushout exposure is that the time of the exposure would be very short before an exposed person would get out of the river.

When evaluating protection of the environment and aquatic life, the RI/FS recognizes that day-to-day Tunnel discharge does not show a lot of the oily hydrocarbon materials. However if another discharge or flushout should occur, there would be a damaging effect on both river bank vegetation and aquatic life in the river.

Table 4 shows a comparison of the chemicals of concern for the flushout scenario to PADER's Water Quality Standards. It should be noted that several concentrations exceed the continuous aquatic life criterion and the human health criteria.

As mentioned earlier, the initial response to the 1979 flushout event for this Site was based on § 311 of the Clean Water Act, but by the 1985 flushout event, CERCLA was in effect. Superfund removal work was done after hazardous substances were confirmed. In 1990, Congress passed the Oil Prevention Act ("OPA") to expand the scope of planning and response activities associated with discharges of oil. The OPA amends § 311 of the Clean Water Act to expand Federal response authority and provides a greater emphasis on preparedness. For this Site, all three Federal regulations would assure the cleanup of any future flushout events from the Butler Mine Tunnel.

TABLE 3

SUMMARY OF INCREMENTAL BASELINE RISK ASSESSMENT RESULTS

Exposure Condition	Media	Exposure Pathway	Concentration Level	Incremental Hazard Index		Incremental Carcinogenic Risk	
				70-Kg Adult	35-Kg Child	70-K Adult	35-Kg Child
Day-to-day	Water-Phase	Accidental ingestion of surface water	Maximum Average	<0.001 <0.001	<0.001 <0.001	4.9×10^{-12} 4.1×10^{-13}	2.8×10^{-12} 2.3×10^{-13}
		Dermal contact with surface water	Maximum Average	0.007 <0.001	0.019 0.002	7.8×10^{-7} 6.6×10^{-8}	2.7×10^{-7} 2.3×10^{-8}
		Accidental ingestion of sediment	Maximum Average	<0.001 NC	<0.001 NC	4.9×10^{-10} NC	2.8×10^{-10} NC
		Ingestion of fish	Maximum Average	<0.001 <0.001	NC NC	3.4×10^{-8} 2.9×10^{-9}	NC NC
		Total (all pathways)	Maximum	0.007	0.019	8.1×10^{-7}	2.7×10^{-7}
Flushout	Water-Phase	Accidental ingestion of surface water	Flushout	<0.001	<0.001	1.7×10^{-11}	1.2×10^{-11}
		Dermal contact with surface water	Flushout	0.003	0.010	2.7×10^{-7}	1.1×10^{-7}
		Accidental ingestion of sediment	Flushout	NC	NC	NC	NC
		Ingestion of fish	Flushout	<0.001	NC	7.1×10^{-9}	NC
		Inhalation of volatiles at Tunnel outlet[1]	Flushout	<0.001	<0.001	1.9×10^{-9}	2.2×10^{-9}
		Total (all pathways)	Flushout	0.003	0.010	2.8×10^{-7}	1.1×10^{-7}
	Hydrocarbon Material Phase	Accidental ingestion of a sheen[2]	Flushout	<0.001	<0.001	3.0×10^{-9}	2.0×10^{-9}
		Dermal contact with a sheen[2]	Flushout	0.005	0.015	5.7×10^{-7}	2.3×10^{-7}
		Inhalation of volatiles from a sheen[3]	Flushout	<0.001	<0.001	6.6×10^{-11}	6.7×10^{-11}
		Total (all pathways)	Flushout	0.005	0.015	5.7×10^{-7}	2.3×10^{-7}
	Water and Hydrocarbon Material Phases	Total for Possible Flushout Conditions (all pathways)[4]	Flushout	0.008	0.025	8.5×10^{-7}	3.4×10^{-7}

Notes: A Hazard Index greater than 1.0 or a carcinogenic risk value above the range of 1×10^{-6} to 1×10^{-4} identifies a potential level of concern. Exposure was assumed to occur at the 15-minute travel time location downriver of the Tunnel.

NC — Not Calculated. Risk values are not calculated because concentration data or exposure variables are not available.

(1) Based on 1985 sampling results at the Tunnel outlet.
(2) Exposure concentrations consider loss of volatile compounds.
(3) Based on modeling results for volatilization and a wind speed of 10.8 mph.
(4) Sum of water-phase and sheen values for flushout conditions.

Table 4

Chemical	Flushout Maximum Report Tunnel Concentration (µg/l)	Human Health Criteria (µg/l)	Continuous Aquatic Life Criteria (µg/l)
Benzene	26.8	1	128
Carbon Tetrachloride	13.6	.03	556
Chloroform	7.0	6	389
Ethylbenzene	ND	3000	580
Methylene Chloride	796.0	5	2368
Toluene	11.0	7000	330
Tricholorethene	ND	3	450
Total Xylenes	ND	300	211
bis (2-Ethylhexyl) phthalate	36.0	100	909
4-Bromophenyl ether	166.0	N/A	54
1,3-Dichlorobenzene	26.5	400 (total DCB)	69
Diethyl phthalate	5.0	313,000	800
Dimethyl phthalate	5.0	N/A	495
Di-n-octyl phthalate	5.0	10	N/A
Naphthalene	ND	300	43
Phenol	ND	700	20
Cyanide	1.0	ND	5

ND = Non Detect NA = Not Analyzed
(1) PA Department of Environmental Resources. PA Water Quality Standards. PA Code Title 24, Chapter 16. Water Quality Toxics Management Strategy - Statement of Policy as amended January 19, 1991.

V. Summary of Remedial Alternatives

The Feasibility Study (FS) contains all the remedial alternatives considered for the Butler Mine Tunnel Site. This section describes the alternatives detailed in the FS.

Remedial Alternatives

Alternative 1 - No Action
Alternative 2 - Institutional
Alternative 3 - Institutional/ Remedial Response
Alternative 4 - Institutional/ Multi-Port Outfall
Alternative 5 - Surface Reclamation

Alternative 1 - No Action

An evaluation of a No Action Alternative is required by the NCP. This alternative does not include any remedial action. It is expected, though, that natural environmental processes will continue to reduce the levels of contaminants in the abandoned deep mine workings. Although there is no cleanup activity with this alternative, State and Federal procedures are in place for discovery, notification and response to a flushout should one occur.

Alternative 2 - Institutional

In this alternative, an Administrative Center would be established in order to perform ongoing assessments of rainfall amounts and forecasts for more rainfall. The Center would also monitor the volume of water flowing from the Tunnel opening and monitor the water levels in the mines and the boreholes. The Center would evaluate the potential for a flushout to occur and would advise PADER when necessary. The Administrative Center would consist of an office and storage facility. The Center would not have to be permanently staffed, but would have a designated individual who would assess the weather conditions daily and would be responsible for the monitoring of the Tunnel discharge. The FS proposes that the Center would be operated for a period of 10 years, which is the basis for the cost estimate.

Because of the extremely short lead time needed to mobilize cleanup activities, it is critical to be able to anticipate the conditions under which a flushout may occur. Therefore, long-range precipitation forecasting would be used along with continuous monitoring at the Site. Long-range weather forecasts (three to five days) may be obtained for the Pittston area on a continuing basis from a weather forecasting service. This information would alert the Center to the potential for a significant rainfall event. The Site hydrogeologic monitoring system would consist of a continuously recording precipitation gauge linked by computer and telephone to the Center. It would be programmed to alert the Center when a predetermined rainfall rate or precipitation volume is recorded. The precipitation gauge would be located within the surface boundary of the Butler Mines. It would collect and record precipitation in the area overlying the main contaminant migration pathway.

The Center would also conduct hydraulic monitoring of Tunnel discharge. The Tunnel flow monitoring system would consist of a continuously recording flow metering system linked by modem to the Center. The monitoring system would be designed to operate over a predetermined range of possible river and Tunnel flow conditions, and would be programmed to alert the Center at a predetermined flow rate.

Based on monitoring data, the Center would use a hydraulic model to estimate Tunnel flow rates from forecasted and ongoing precipitation events. If projected peak flow rates exceed a predetermined critical level, the Center would evaluate this projection, along with other available information and data to determine if a potential flushout alert should be put in place. This would trigger Tunnel discharge chemical monitoring, borehole water level monitoring, and water quality sampling.

Institutional alternative preliminary cost estimates are listed below.

Costs for Alternative 2	
• Capital	$ 450,000
• Annual Operating & Maintenance	$ 150,000
• Present Worth	$1,300,000
• Total Project	$1,750,000

Alternative 3 - Institutional/Remedial Response

The Institutional/Remedial Response alternative combines the institutional response actions described in Alternative 2 with a remedial response effort. If a flushout were to occur, the discharge of hydrocarbon materials would be a concern. This alternative, therefore, supplements Alternative 2 by including funds for the response action for two more future discharges. These funds will be used for containment of hydrocarbon materials on the river and collection of materials that may accumulate along the shoreline downstream of the Tunnel outlet.

When a flushout occurs, the Wilkes Barre Regional office of PADER would initiate the containment and cleanup of the oil spill on the river. If the PADER emergency response crew needs assistance they would notify EPA for additional emergency response personnel. The cleanup efforts would include the use of containment and absorbent booms. The containment boom is a floatable, fence-like barrier and the absorbent booms are used within the containment boom to soak up the floating oily material.

In preparation for a flushout, land-based, permanent anchors would be constructed upstream and downstream of the discharge location by the Center. This would make it easier to deploy and secure the booms. In the event high river currents or winds cause the containment boom to close on itself, the anchors would be employed to attempt to reduce drift.

Booms, skimmers, clean-up materials and support equipment, including a boat, would be purchased by the Center. In addition, a response preparedness plan would be developed for storage and upkeep of the booms and equipment. The plan would cover response and deployment procedures; access to utilities; practice deployment exercises; and the handling, transportation and disposal of

hydrocarbon material removed from within the boom system and from along the shoreline. In this alternative, the anchors would be constructed as part of the remedy. The booms would be prepurchased and stored near the site. These response measures will help to expedite the PAPADER and EPA containment and cleanup efforts.

The FS proposes that approximately $700,000.00 would be needed for any cleanup efforts and that two future cleanups are used as the basis to develop the cost estimates for this alternative. If any additional releases occur, the costs could increase.

This alternative includes two other tasks as part of the capital costs. The six exploratory boreholes outside the main contaminant migration pathways would be permanently closed. The Center would take on additional responsibilities to implement a public information program about the risks of improper disposal of household hazardous wastes. Since many boreholes of various sizes are located throughout the areas surrounding the Site, it is possible that some household wastes, such as used motor oil, could be disposed into the mine pool. Additional contaminants could therefore continue to reach the Susquehanna River. This program would be directed toward residents in the entire Wilkes-Barre, Scranton area.

The Institutional/Remedial Response cost estimates include costs for Alternative 2 and the costs for construction of the anchors, purchase of boom materials and flushout remediation.

Costs for Alternative 3	
• Capital	$ 800,000
• Annual Operation & Maintenance	$ 170,000
• Present Worth	$1,500,000
• Flushout Remediation	$1,400,000
• Total Project	$3,700,000

Alternative 4 - Institutional/Multi-Port Outfall

This alternative combines the response actions of Alternative 2 with a multi-port outfall technology. Instead of the current discharge at the river's edge, a large pipe would be constructed to take water from the Tunnel discharge location to the bottom of the river. The outfall pipe embedded in the river would disperse Tunnel flow via ports to achieve immediate mixing with up to 50 percent of the river flow. The multi-port outfall system is comprised of a transition chamber and a 300 foot long outfall pipe with ports embedded in the river. The multi-port outfall will not reduce the mass or concentration of contaminants in the Tunnel discharge. It will reduce the concentrations of water-phase constituents in the river. Operation and maintenance would be required for the transition chamber, outfall pipe, and the ports. As with Alternative 2, PAPADER would be advised if the potential for a flushout exists, and, at its discretion, could issue river-use advisories and implement other response actions.

Institutional/Multi-Port Outfall alternative cost estimates are listed below:

Costs for Alternative 4	
• Capital	$1,850,000
• Annual Operating & Maintenance	$ 160,000
• Present Worth	$1,500,000
• Flushout Remediation	$1,400,000
• Total Project	$3,250,000

Alternative 5 - Surface Reclamation

This alternative would try to stop the rainfall water from entering the mine pool beneath the surface of the entire Butler Mine Tunnel working. The surface area would consist of 10 to 15 acres in the Pittston Area. The idea would be to regrade the surface areas to reduce the volume of rainfall that enters the migration pathway, thereby reducing the probability of a flushout.

Since the area is currently developed by residents and business, the amount of potential regrading and reclamation is limited. It is estimated that only a 45 to 50 percent reduction of the volume of water entering the mine pool in the migration pathway can be achieved. Costs for this alternative not include the institutional response actions described in Alternative 2.

Cost for Alternative 5	
• Capital	$2,250,000
• Annual Operating & Maintenance	$ 25,000
• Present Worth	$ 200,000
• Total Project	$2,450,000

Analysis of Remedial Alternatives

Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Overall Protection of Human Health and the Environment	No Prediction methods used DER/EPA will provide protection	Administrative Center will try to predict and will monitor DER/EPA will provide protection	Administrative Center will try to predict and will monitor DER/EPA will provide protection	Administrative Center will try to predict and will monitor DER/EPA will provide protection	No Prediction methods used DER/EPA will provide protection
Compliance with ARARs	Oil discharge will trigger OPA and CWA Hazardous substances will trigger CERCLA	Oil discharge will trigger OPA and CWA Hazardous substances will trigger CERCLA	Oil discharge will trigger OPA and CWA Hazardous substances will trigger CERCLA	Oil discharge will trigger OPA and CWA Hazardous substances will trigger CERCLA	Oil discharge will trigger OPA and CWA Hazardous substances will trigger CERCLA
Long-Term Effectiveness and Permanence	DER/EPA will respond as needed	DER/EPA will respond as needed	DER/EPA will respond as needed	DER/EPA will respond as needed	DER/EPA will respond as needed
Reduction of Mobility, Toxicity or Volume Through Treatment	No reduction	Monitoring will provide quicker response and reduce mobility No reduction on toxicity or volume	Monitoring will provide quicker response and reduce mobility No reduction on toxicity or volume	Monitoring will provide quicker response and reduce mobility No reduction on toxicity or volume	Reduction of water entering mine pool may reduce volume No reduction on toxicity or volume
Short-Term Effectiveness	No prediction methods used DER/EPA will provide protection	Administrative Center will try to predict and will monitor DER/EPA will provide protection	Booms can be deployed faster	Administrative Center will try to predict and will monitor DER/EPA will provide protection	No prediction methods used DER/EPA will provide protection
Implementability	Not applicable	No problems anticipated	No problems anticipated	Large quantity of discharge to be disposed within the river will make boom deployment more difficult	Surface regrading of limited areas will not ensure decrease of possibility of flush out
Cost (Estimated)	None	$1,750,000	$3,700,000	$3,250,000	$2,450,000
State Acceptance	No	No	Yes	No	No
Community Acceptance	To be determined	To be determined	To be determined	To be determined	To be determined

VI. EPA's Preferred Alternative

EPA and PADER have reviewed the various alternatives presented in the FS for the Site and prefer Alternative 3: Institutional/Remedial Response which uses an Administrative Center to a) monitor rainfall, b) monitor flow rate at the Tunnel discharge location, c) measure water levels in monitoring boreholes and d) collect water samples for chemical analysis to try and predict when a discharge may occur. The Administrative Center would be responsible to notify PADER when a potential for a flushout exists, as well as notify PADER when a flushout occurs.

Alternative 3 also includes preparation for future cleanup activities by constructing access roads, anchors along the river's edge, and prepurchasing containment and absorbent booms necessary for the cleanup. This alternative includes an additional cost of $1.4 million to pay for cleanup of future discharges. The estimated costs are based on two cleanup efforts comparable to the 1985 flushout event. Costs could increase if more flushout events occur, or the volume of flushout materials exceeds the previous releases.

VII. Community's Role VII Community's Role in the Selection Process

This Proposed Plan is being distributed to solicit public comments about the proposed remedial alternatives for cleaning up the Site. EPA relies on public input so that the remedy selected for each Superfund site meets the needs and concerns of the local community. To assure that the communi concerns are being addressed, a public comment period lasting thirty (30) days will follow this public notice and a public meeting will be held in the community. It is important to note that although EPA has proposed a Preferred Alternative, no remedy selection for the Site has been made. All comments received will be considered and addressed by EPA.

Detailed information on the material in this plan may be found in the Administrative Record for the Site. It contains the RI/ FS Reports and other information used by EPA in the decision making process. EPA encourages the public to review the Administrative Record in order to gain a more comprehensive understanding of the Site and Superfund activities that have been conducted there. Copies of the Administrative Record are available for review at the Information Repositories listed on the next page.

Public Comment Period

Public comment period opens July 19, 1994 and closes September 22,1994

Arrangements have been made for a public meeting to be held on:

September 20, 1994

Pittston Area School District
Senior High School Auditorium
5 Stout Street
Yatesville,Pennsylvania

7:00 PM

Following the conclusion of the thirty (30) day public comment period on this Proposed Plan, EPA will prepare a formal decision document. The Record of Decision (ROD) summarizes the decision process and the remedy selected for the Site. This ROD will include the Responsiveness Summary. The Responsiveness Summary will summarize citizens' comments on EPA's Preferred Remedial Alternatives and EPA's responses to these comments. Copies of the ROD will be made available for public review in the information repository.

Information Repositories

EPA has established two information repositories to allow public access to all Site-related documents used by EPA to determine the various cleanup alternatives presented in this Proposed Remedial Action Plan. These documents are contained in the official *Administrative Record.* Also included in the repositories is general information about the Superfund process and how it relates to the Butler Mine Tunnel Superfund Site. Information repositories are located at the following address:

Luzerne County Courthouse
Emergency Management Center
North River Street
Wilkes Barre, PA 18711

EPA Official Contacts

If citizens wish to submit a comment or question regarding the Proposed Remedial Action Plan for the Butler Mine Tunnel Superfund Site, please contact the EPA officials listed below.

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If you need additional information about the upcoming public meeting or the Superfund process, please contact Leanne Nurse.

GLOSSARY OF TERMS

Administrative Record - EPA's official compilation of documents, data, reports, and other information that is considered important to the status of, and decisions made relative to, a Superfund Site. The record is placed in the information repository to allow public access to the material.

Carcinogenic - A cancer-causing agent.

National Contingency Plan (NCP) - The federal regulation that guides the determination and manner in which sites will be cleaned up under the Superfund program.

National Priorities List (NPL) - EPA's list of the nation's top priority hazardous waste sites that are eligible to receive federal money for response action under the Superfund program.

Record of Decision (ROD) - A legal document that describes the remedial actions selected for a Superfund site; why certain remedial actions were chosen as opposed to others; how much they will cost; and how the public responded.

Remedial Investigation and Feasibility Study (RI/FS) - A report composed of two scientific studies, the RI and the FS. The RI is the study to determine the nature and extent of contaminants present at a Site and the problems caused by their release. The FS is conducted to develop and evaluate options for the cleanup of the Site.

Risk Assessment (RA) - The RA is an essential component of the Remedial Investigation Report. T portion of the RI evaluates the carcinogenic and non-carcinogenic risks presented by the contaminan at the site. Risk is calculated both for current uses and potential future uses of the property by a defined population (i.e. on and offsite residents, trespassers, etc.).

Scientific Notation - In dealing with particularly large or small numbers, scientists and engineers have developed a "short hand" means of expressing numerical value. For example, 1,000,000 can be written as 1×10^{6} and 1/1,000,000 can be written as 10^{-6}.

Superfund (Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)) - A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act. This Act created a Trust Fund, known as Superfund, which is available to EPA to investigate and cleanup abandoned or uncontrolled hazardous wastes sites.